



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6

1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

Date of Inspection: August 20-23, 2012

EPA ID Number: TXT490011293

Facility Name: Formosa Plastics Corporation, Inc.

Physical Location: 201 Formosa Drive
Point Comfort, TX 77978

Mailing Address: P.O. Box 700
Point Comfort, TX 77978

Type of Ownership: ☐ Federal ☐ State ☐ County ☐ Municipal ☒ Private/Commercial

Inspection Participants: (name and phone number)

EPA Representatives: Frances Verhalen, 214-665-2172
Nancy Fagan, 214-665-8385

TCEQ Representative: Maureen Hatfield, 512-239-2034

Facility Representative: Matt Brogger, Environmental Manager, 361-987-7468

Facility Description: Formosa Plastics Corporation (FPC) is a 1,600-acre chemical manufacturing facility that produces polyvinyl chloride (PVC) powder from polymerized vinyl chloride monomer (VCM). The facility also produces glycols, ethylene, caustic, chlorine gas, and polyethylene.

FPC has begun conducting facility-wide corrective actions to identify the nature and extent of contamination associated with releases of hazardous constituents into soil and groundwater, and to implement remedial actions to meet corrective action objectives.

Generator Status: ☒ LQG (>1000kg/mo) ☐ SQG (100kg/mo to 1000kg/mo)
☐ CESQG (<100kg/mo) ☒ TSDF

Inspection Type: ☒ EPA Lead ☐ State Lead ☐ CSE ☐ CEI ☐ CDI
☐ Sampling ☐ Multi-Media ☒ Other: Corrective Action

Reason for Evaluation: ☒ (01) Follow up ☐ (02) Case Development
☐ (03) Sampling ☐ (04) Citizen Complaint
☐ (07) General ☐ (16) CAV
☐ (63) US/Mexico ☐ (65) CAV-US/Mexico

Summary of Inspection: EPA conducted a RCRA corrective action inspection at FPC on August 20 through 23, 2012 to determine the status of the solid waste management units (SWMUs) and areas of concern (AOC) identified in the RCRA 3008(a) Order issued in June 2012 and to participate in the Scoping Meeting to discuss corrective actions scheduled for the facility. During the site visit, EPA observed and inspected the SWMUs and AOC in the expansion area and discussed the integration of proposed remedial actions to meet the corrective action objectives.

Checklists Completed: Yes (Attachment A)

Inspected by: Frances Verhalen *Verhalen*

Date: 10/1/2012

Peer Reviewed by: Nancy Fagan *N Fagan*

Date: 10/1/2012

RCRA CORRECTIVE ACTION INSPECTION REPORT

FORMOSA PLASTICS CORPORATION

201 Formosa Drive, Point Comfort, TX 77978

(EPA ID Number: TXT490011293)

1. INTRODUCTION

On August 20, Frances Verhalen, US EPA Region 6 Corrective Action Enforcement Officer, arrived at Formosa Plastics Corporation, TX at 1605 hours to obtain credentials for a Corrective Action Scoping Meeting. Maureen Hatfield, Texas Commission on Environmental Quality (TCEQ) Project Manager, arrived on August 21, 2012 at 0800 hours. Ms. Verhalen and Ms. Hatfield reviewed the solid waste management units (SWMUs) and areas of concern (AOC) on August 21 and 22. Nancy Fagan, US EPA Region 6 Corrective Action Project Coordinator, arrived on August 22 at 1400 hours. Ms. Hatfield, Ms. Fagan, and Ms. Verhalen discussed the facility-wide corrective actions and integration of remediation plans into the corrective action objectives and into the post closure permit application.

2. OPENING MEETING

On August 21, 2012, Ms. Verhalen and Ms. Hatfield met with Mr. Matt Brogger, environmental manager; Mr. Paul Huertevant, director of environmental and health services; Mr. David Hill, operations manager; Mr. Eric Klink, TetraTech; Mr. Douglas Laymon, TetraTech; and Mr. Ross Martin, TetraTech. TetraTech is Formosa's consultant assisting with technical matters associated with integration of the corrective action strategy CAS for site-wide corrective action.

Formosa provided an overview of each SWMU and AOC identified in the 2012 RCRA 3008(a) Consent Agreement and Final Order (CAFO) Attachment A. Formosa presented the wastes managed with each SWMU and AOC, a current status of waste management, and any identified issues associated with the SWMU and AOC. A copy of the presentation is attached in Appendix A.

During the presentation, the following issues were discussed:

- TCEQ will list the SWMUs and AOC in the post-closure permit with a designation of further action required or no further action required. In doing so, there will be a permanent record of action determination.
- EPA requested a copy of the integrity testing report for SWMU 7 (NOR #39).
- EPA requested a copy of the most recent analytical results for SWMU 9, the demineralization unit associated with the Raw Water Pond (NOR #43).

- EPA requested a copy of the analytical results for the sampling of AOC 2 (Soil Pile).
- EPA requested a copy of that portion of the SPCC Plan relevant for the Used Oil Storage Vessel in the Central Maintenance Area.
- Formosa stated that there were approximately 60 Satellite Accumulation Areas and that they were managed in the same manner as the three that were listed for inspection.

3. SWMU and AOC INSPECTION

EPA and TCEQ inspected the SWMUs and AOCs with Formosa and TetraTech on August 21 and 22, 2012, and noted the following observations:

1. AOC 2 is the construction Soil Pile, located northeast of the new Specialty Poly Vinyl Chloride (SPVC) Plant. According to Mr. Brogger, the Soil Pile was started approximately 2009 and was estimated to be approximately 4 acres in size. The soil came from the construction area for the SPVC Plant. The Soil Pile contained concrete and soil debris. A concrete washout pond was observed (see Attachment B, Photograph 1). According to Mr. Brogger, once the concrete has hardened, it is removed from the pond and placed on the Soil Pile. Formosa plans to hire a concrete crusher to crush the concrete rubble and re-use the crushed concrete for road base and riprap. Formosa has established a second soil pile located approximately 200 feet south of AOC 2 for storage of soils removed from the construction area for the new Frac II expansion project.
2. SWMU 11 is a Container Storage Areas at the SPVC plant area. SWMU 11 is a less than 90 day storage area (see Attachment B, Photograph 2). At the time of inspection, there were 7 drums and 1 spill kit stored in the area.
3. SWMU 13 consists of three Satellite Storage Areas (SAAs), one of which is in the SPVC laboratory. EPA requested information about disposal of Tedlar bags that were stored in SWMU 13.
4. AOC 6 included the Used Oil Storage Tank, Wash Pad, and Oil Water Separator in the Central Maintenance Area.
 - a. The Used Oil Tank is an approximate 25,000 gallon steel tank located within a concrete-bermed secondary containment structure. The containment structure has a roof, which restricts the amount of precipitation entering the structure, and is open on three sides (see Attachment B, Photograph 3).
 - b. The Wash Pad is a concrete drive that has approximately 3-inch ramped berms on three side and the approximately 6-inch, raised concrete edge of the oil water separator to capture any leaks or drips during transfer of oily wastewaters to the oil-water separator (see Attachment B, Photograph 4).
 - c. The Oil-Water Separator is a three-bay unit with weirs separating the bays. There are no pipes entering or exiting the unit. Wastewater is removed by

vacuum truck and transported to the Central Wastewater Treatment Plant for treatment. Used oil is skimmed from the surface by vacuum truck and stored in the Used Oil Tank. EPA requested information about the frequency and quantity of oil removed from the Oil Water Separator (see Attachment B, Photograph 4).

At the time of inspection, EPA noted an area of concern of stained soil in a drainage path flowing from the Wash Pad outside of the bermed area along the southwest corner of Wash Pad.

5. SWMU 9 is the Raw Water Pond with blowdown from the demineralization unit. At the time of inspection, the vegetation surrounding the Raw Water Pond was overgrown. EPA and TCEQ inspected only the Raw Water Pond intake area and did not inspect the Demineralization Unit area immediately north of the Raw Water Pond. EPA did not collect a photograph of SWMU 9.
6. SWMU 13 consists of three SAAs, one of which is for the Technical Laboratories. Formosa maintains an SAA in the general laboratory and an SAA in the research and development laboratory for storage of used chemicals and clean-out residues from analytical equipment. These areas are located under chemical hoods that have splash and air handling controls. There is also a less than 90-day Container Storage Area for the Technical Laboratories outside of the laboratories (see Attachment B, Photograph 5).
7. AOC 3 and 4 are the Water Separation Unit from the Die-Cut Process and the Heavy Ends Tank receiving Waste Hexane, respectively, in the low linear density polyethylene (LLDPE). These units receive wastewater from the polyethylene (PE) production unit that trims the PE stringers into pellets. The wastewater contains pellets and hexane. The pellets are skimmed and sold as cutter stock. The hexane is stripped from the wastewater and sold as used hexane. The remaining wastewater is routed to the CWTP.
8. AOC 5 has two units: one in the HDPE I Plant and one in the HPDE II Plant.
 - a. The unit in the HDPE I Plant is the Waste Hexane Drum and Waste Hexane Stripper units in the Polypropylene Plant. The waste hexane refers to hexane that is not virgin but that is recycled back into the process. The Waste Hexane Drum is a steel tank located approximately six feet below grade in a concrete tank. The concrete tank has sufficient area below the raised steel tank to capture precipitation, which is routed to the CWTP for treatment. The Waste Hexane Stripper is a steam stripper that thermally strips the hexane from the wastewater; the hexane is re-introduced back into the process line.
 - b. The unit in the HDPE II Plant is Tank 801, known as the centrifugal dryer filtrate unit. This unit receives pellet cutter wash water, which generates plastic pellets and wastewater. The plastic pellets are skimmed off the wastewater and collected in bags which are stored roll-off boxes for sale as cutter stock product. The wastewater is discharged to the CWTP. At the time

of the inspection, EPA noted that the plastic pellets were contained within the tank prior to loading into bags.

9. SWMUs 1 through 6 and 10 are located in the Chlor Alkali Plant.

- a. SWMU 1 is Hazardous Waste Tank DT405. This tank has not been used and was closed by TCEQ (see Attachment B, Photograph 6).
- b. SWMU 2 is Hazardous Waste Tank DT407A. This tank receives heavy ends products from the Chlor Alkali Plant; the heavy ends are sold as product to PPG in Louisiana (see Attachment B, Photograph 6).
- c. SWMU 3 is Hazardous Waste Tank DT407B. This tank receives heavy ends products from the Chlor Alkali Plant; the heavy ends are sold as product to PPG in Louisiana (see Attachment B, Photograph 6).
- d. SWMU 4 is the Brine Filter Press roll-off box CSA. At the time of the inspection, there were approximately 6 roll-off boxes staged in the CSA. Only one box was in use at the time of the inspection. Once full, the box is moved to the less than 90-day container storage yard in the pre-1991 area of the facility. According to Formosa, the brine provider has changed its process at the brine production facility to remove more solids prior to shipment to Formosa. This change in process has reduced the volume of filter press solids that Formosa produces and manages from approximately 45 to approximately 3 roll-off boxes per month. The solids are sampled and shipped offsite as Class 2 wastes.
- e. SWMU 5 is a former Storage Pad that has been removed. In 1992 during remediation activities associated with thermal treatment of EDC-contaminated soil from the area, Formosa established a storage pad for treatment residues. Formosa removed the pad in approximately 2008. At the time of the inspection, EPA observed that the pad area had been removed, gravel was placed in the area, and overhead utility lines and piping had been installed.
- f. SWMU 6 is a CSA within the battery limits of the Chlor Alkali plant. The CSA is used to store roll-off boxes used for plant maintenance and repair activities. Once the roll-off boxes are full, the boxes are moved to the less than 90-day container storage yard in the pre-1991 area of the facility. At the time of inspection, there was one roll-off box containing scrap metal in the CSA (see Attachment B, Photograph 7).
- g. SWMU 10 is a CSA in the Chlor Alkali Plant used to contain mercury-contaminated acid wastes. The wastes were generated when Formosa determined that the sulfuric acid that they had purchased and had placed into the production line was contaminated with mercury. The fluids that had contacted the acid, the unused acid, and the process lines rinse waters were contained in the CSA prior to shipment off-site to a permitted disposal facility. At the time of the inspection, there were no containers in the CSA (see Attachment B, Photograph 8).

10. AOC 1 is the Stormwater Outfalls 006 through 009. These outfalls drain the majority of stormwater from the Expansion Area of the facility into Cox Creek. Formosa does segregate the stormwater that falls in the process areas and routes this wastewater to the CWTP for treatment prior to discharge through Outfall 001.
- a. Outfall 006 is located immediately south of the CWTP and drains most of the southern end of the Expansion Area. At the time of the inspection, the stormwater outfall was cleaned of vegetative debris and solid waste (see Attachment B, Photograph 9). EPA observed minnows in the standing water above and below the outfall.
 - b. Outfall 007 is located north of the CWTP and drains around the CWTP and the Inland Traffic area. At the time of the inspection, the stormwater outfall was cleaned of vegetative debris and solid waste (see Attachment B, Photograph 10).
 - c. Outfall 008 is located south of the Railcar Operations area and drains the PP2 Plant, Utilities, EG Plant and Olefins Plant areas. At the time of the inspection, the stormwater outfall was cleaned of vegetative debris and solid waste. EPA did not collect a photograph of outfall 008.
 - d. Outfall 009 is located north of the Railcar Operations area and drains the PE2 Plant, Olefins Plant, and Frac 2 areas, and the areas associated with the maintenance shop and side roads at the north end of the Facility. At the time of the inspection, the stormwater outfall was cleaned of vegetative debris and solid waste. EPA did not collect a photograph of outfall 009.
11. SWMU 12 is the Olefins 1 and Olefins 2 Zimpro Units. These units are wastewater treatment units that separate spent caustic from the organic component of the wastewater. The caustic is discharged to the CWTP for treatment; the organic stream containing benzene discharges through carbon filters to remove the benzene, then flows to the stripper and then to the flare. The Olefins 1 Zimpro unit was constructed in approximately 1992 and the Olefins 2 Zimpro unit was constructed in approximately 2002. EPA did not collect a photograph of SWMU 12.
12. AOC 7 consists of the CWTP and 4 specific units within the CWTP. The CWTP has three treatment trains: one biological train for discharges of organic chemical wastewaters from the process plants; one biological train for discharges of storm water from process areas across the facility; and one physical-chemical treatment train for discharges of inorganic chemical wastewaters from the process plants.
- a. EPA inspected the brine chiller for the Chlor Alkali Plant. This area had been overflowing due to pump malfunction during EPA's 2010 inspection. At the time of the inspection, the pumps and chiller were operating without incident (see Attachment B, Photograph 11).
 - b. During the inspection, EPA noted some plastic pellets on the concrete surface of the CWTP; according to Formosa, these wastes are washed into the storm drain system of the CWTP and routed to the biological treatment trains.

- c. Formosa described an overflow in the fall of 2010 when Tropical Storm Hermine produced excessive precipitation at the same time that both clarifiers had been shut down due to performance issues. The overflow from the CWTP exceeded the bermed area, flowed into the storm drainage system and exited through Outfall 007. Formosa notified TCEQ of the overflow, collected samples, and found no exceedance of permit limits.
 - d. Formosa explained that decant water in from the solids compression area tank flows to the stormwater drainage system and then back into the treatment system. The solids are compressed prior to sending the solids to the belt press area to assist in achieving a 60% solids concentration for off-site shipment.
 - e. EPA inspected the copper compression unit. During the EPA inspection in 2010, this area had a discharge of copper sludge to the stormwater drainage system due to a pump failure. At the time of this inspection, the copper removal system was operating without incident (see Attachment B, Photograph 12).
 - f. Formosa described the removal of water from the sludges generated at the CWTP in the belt press. The solids generated from the belt press are stored in roll-off boxes (see Attachment B, Photograph 13), sampled for waste classification, and disposed as Class II nonhazardous waste.
 - g. EPA observed the mixing box where Outfall 201 discharging from the groundwater remediation system for VCM contamination and Outfall 101 discharging from the CWTP mixed prior to discharge through Outfall 001. Outfall 001 is the TPDES-permitted outfall into the Lavaca River.
 - h. Immediately southwest of the mixing box, Formosa has established a satellite accumulation area for collection of hazardous waste sludges (see Attachment B, Photograph 14) generated when sludge from the mixing box is removed. The sludges are listed hazardous waste from the groundwater treatment system.
13. SWMU 9 is the sump in the HDPE area that receives drainage from the chromate catalyst building. The sump, the bottom of which rests 10 to 12 feet below grade, collects runoff from cleaning operations from the catalyst building in the immediate area. The sump is cleaned using a vacuum truck to remove the water and sludge which exhibit characteristically hazardous concentrations for chromium. Wastewater containing concentrations below characteristically hazardous levels is released to the CWTP for treatment. EPA did not collect a photograph of SWMU 9.

4. CORRECTIVE ACTION DISCUSSION

EPA requested information to complete the inspection forms. Outstanding report information included:

- 1. Analytical information about the HDPE II (NOR Unit 39) sludges and wastes, the

Raw Water Pond sediments (NOR Unit 43), Chlor Alkali tank contents (NOR Units 23, 24), Chlor Alkali sludges (NOR Unit 26), Chlor Alkali concrete pad demolition wastes (NOR Unit 31), Zimpro Units in the Olefins I and II Plants wastewaters and waste organics, CWTP solids and sludges (NOR Unit 40), and the Soil Pile wastes (AOC 2);

2. Concrete pad demolition report (NOR Unit 31);
3. Report of the overflow from the CWTP associated with September 2010 event (TS Hermine);
4. Tank integrity report for HDPE II tank (NOR Unit 39);
5. Closure report for Tank DT405 in the Chlor Alkali Plant;
6. Soil Pile sampling report; and
7. Portion of the SPCC associated with the Used Oil Tank (AOC 6)

EPA also requested additional information about four areas that required discussion with specific plant personnel about:

1. The waste management procedures for Tedlar bags from the SPVC laboratory satellite storage area;
2. The disposal location for the mercury contaminated sulfuric acid from the Chlor Alkali Plant (NOR Unit 45);
3. Frequency of cleaning of Outfalls 006, 007, 008, and 009; and
4. Information about possible spray painting outside of the railcar maintenance area.

Ms. Hatfield initiated discussions about TCEQ's permitting requirements. She also requested that Formosa and its contractors schedule monthly or biweekly teleconferences with her to discuss any issues or concerns that the Facility is having with the application. Ms. Hatfield said that she would coordinate with Karen Scott, who is assigned by TCEQ to prepare the permit.

Ms. Fagan began discussion of integrating the corrective actions in the pre-1991 area with those in the Expansion area for the conceptual site model to provide site-wide corrective actions for releases of hazardous wastes to the environment. Mr. Klink provided information about current activities at Formosa to develop information for the conceptual site model (see Appendix A). During the discussion, Ms. Fagan told Formosa that she would provide a copy of EPA's ground well sampling report.¹

EPA, TCEQ and Formosa discussed the Corrective Action Objectives (CAOs) that were prepared in compliance with the 1991 RCRA 3008(h) Order for the pre-1991 area of the facility. These CAOs were: contain the contaminant plume in the groundwater; remove or treat sources materials in the soil and groundwater; control or mitigate risks to workers from contaminants in

¹ The property owner names will be redacted.

surface and subsurface soils; and monitoring contaminant levels in Cox Creek. As a result of the discussion, EPA and TCEQ determined that the CAOs would be appropriate for the Expansion part of the Facility.

Formosa provided an update on the Area of Concern Characterization work in the pre-1991 Area of the Facility. The work included installation of additional wells in the A and B zones. Formosa reported one change in the work plan.

Formosa's contractor had drilled to approximately 70 feet below ground surface on the Former Brookings Property and had not transected the B Sand. This well was to be used as the Point of Compliance well. Another well location was being determined.

EPA discussed the determination of further action for the SWMUs and AOCs that had been reviewed the previous days. These determinations are listed in Table 1.

5. CLOSING MEETING

Mr. Randall P. (Randy) Smith, Plant Manager for Formosa, was present for the closing meeting. EPA, TCEQ, and Formosa summarized the activities completed during the Scoping Meeting. EPA summarized those SWMUs and AOC that required no further action and explained the reasons for keeping the remaining SWMUs and AOC. EPA also summarized the Action Items as follows:

1. EPA will provide a copy of the Groundwater Well Sampling Report to Formosa
2. EPA will provide a letter to Formosa to evaluate the drum burial area
3. Formosa will evaluate the potential release of contaminants in the Railcar Maintenance Laydown Area (east of the Railcar Maintenance building)
4. TCEQ and Formosa will establish a communication procedure to be used during the Permit application process and will include EPA in the communications
5. Formosa will submit the Scoping Meeting Report in 45 days from conclusion of the Scoping Meeting (due October 8, 2012).
6. Formosa will compile and send to EPA the outstanding information detailed during the Corrective Action discussion.

6. SUMMARY AND AREAS OF CONCERN

The EPA Region 6 participated in the Scoping Meeting at the Formosa Plastics Corporation Point Comfort, TX, facility on August 20 through 23, 2012. The purpose of the Scoping Meeting was to review the SWMUs and AOC in the Expansion Area, discuss potential revisions to the Conceptual Site Model to include the Expansion Area, and to evaluate the CAOs to determine if substantial changes are required. EPA and TCEQ discussed the procedures and activities associated with Formosa's application for Permit for hazardous waste management for corrective actions.

Attachment A

Corrective Action Checklist

| | | |
|----|------------------------------|------------------------------|
| 1 | When it started in the tank? | When it started in the tank? |
| 2 | When it started in the tank? | When it started in the tank? |
| 3 | When it started in the tank? | When it started in the tank? |
| 4 | When it started in the tank? | When it started in the tank? |
| 5 | When it started in the tank? | When it started in the tank? |
| 6 | When it started in the tank? | When it started in the tank? |
| 7 | When it started in the tank? | When it started in the tank? |
| 8 | When it started in the tank? | When it started in the tank? |
| 9 | When it started in the tank? | When it started in the tank? |
| 10 | When it started in the tank? | When it started in the tank? |
| 11 | When it started in the tank? | When it started in the tank? |
| 12 | When it started in the tank? | When it started in the tank? |
| 13 | When it started in the tank? | When it started in the tank? |
| 14 | When it started in the tank? | When it started in the tank? |
| 15 | When it started in the tank? | When it started in the tank? |

Hazardous Waste Storage Tank DT405 - Tank: listed on TCEQ NOR as Unit 023

Location: Chlor Alkali Plant

| | | |
|----|--|---|
| 1 | What is stored in this tank? | Empty. Previously stored EDC distillation ends. Exempted waste - sold as (reclaimed) product. |
| 2 | When built? | Approximately 1991-1992 |
| 3 | Construction details? (welds, rivets) | Welds. Curbed area. |
| 4 | Quantity and type of waste/material stored in tank | None |
| 5 | Last rehab/renovation (mo, yr) | Clean closed by triple rinsing and sampling. Closed on NOR in April 2004. |
| 6 | Discharges from the tank? | None |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to tank? | None |
| 9 | What spill response occurred? | N/A |
| 10 | Analytical samples collected? | Formosa (TetraTech) to provide |
| 11 | When/Where? | During closing of tank |
| 12 | Results? (attach copies) | EPA requested 8/23/12 |
| 13 | Wastes generated? | During closing of tank |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

Hazardous Waste Storage Tank DT 407A: listed on TCEQ NOR as Unit 024

Location: Chlor Alkali Plant

| | | |
|----|--|--|
| 1 | What is stored in this tank? | Distillation Ends - excluded wastes. Sold as substitute products (see 9/14/00 TCEQ letter) |
| 2 | When built? | Approximately 1991-1992 |
| 3 | Construction details? (welds, rivets) | Welds |
| 4 | Quantity and type of waste/material stored in tank | Formosa to provide information |
| 5 | Last rehab/renovation (mo, yr) | N/A |
| 6 | Discharges from the tank? | None |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to tank? | Repainting as needed |
| 9 | What spill response occurred? | None |
| 10 | Analytical samples collected? | Formosa to provide information |
| 11 | When/Where? | Formosa to provide information |
| 12 | Results? (attach copies) | Formosa to provide information |
| 13 | Wastes generated? | None |
| 14 | Affected areas? | None |
| 15 | Subsequent remediation of areas? | N/A |

Hazardous Waste Storage Tank DT 407B: listed on TCEQ NOR as Unit 025

Location: Chlor Alkali Plant

| | | |
|----|--|--|
| 1 | What is stored in this tank? | Distillation Ends - excluded wastes. Sold as substitute for products (see 9/14/00 TCEQ letter) |
| 2 | When built? | Approximately 1991-1992 |
| 3 | Construction details? (welds, rivets) | Welds |
| 4 | Quantity and type of waste/material stored in tank | Formosa to provide information |
| 5 | Last rehab/renovation (mo, yr) | N/A |
| 6 | Discharges from the tank? | None |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to tank? | Repainting as needed |
| 9 | What spill response occurred? | None |
| 10 | Analytical samples collected? | Formosa to provide information |
| 11 | When/Where? | Formosa to provide information |
| 12 | Results? (attach copies) | Formosa to provide information |
| 13 | Wastes generated? | None |
| 14 | Affected areas? | None |
| 15 | Subsequent remediation of areas? | N/A |

Brine Filter Press Roll-off Box Container Storage Area: listed on TCEQ NOR as Unit 026

Location: Chlor Alkali Plant

| | | |
|----|----------------------------------|---|
| 1 | What is stored in this CSA? | Brine filter solids - Class II non hazardous wastes. Recovered fluids are placed back into process |
| 2 | When built? | Approximately 1991-1992 |
| 3 | Construction details? | Roof and housing over filter press; solids exit press into roll-off box; liquids recovered and recirculated back to clarifier |
| 4 | Last rehab/renovation (mo, yr) | December 2011. Instituted new procedure upstream at salt domes to remove most of the solids from the brine. Went from 1 box/16 hours to approximately 3 boxes per month |
| 5 | Wastes/materials stored on CSA | Brine solids approximately calcium carbonate. Some salts washed back into liquid stream |
| 6 | Discharges from the CSA? | Onto curbed concrete area; recovered and returned to process |
| 7 | If so, when? Where? | Daily; each shift cleans area and manages discharges |
| 8 | Repairs to CSA? | At time of inspection, repairing water line to fire hydrant. Requires removal of concrete but not tied to process. |
| 9 | What spill response occurred? | Discharge from roll-off boxes is recovered and recycled back into process |
| 10 | Analytical samples collected? | Formosa to provide |
| 11 | When/Where? | Formosa to provide |
| 12 | Results? (attach copies) | Formosa to provide |
| 13 | Wastes generated? | Solids for offsite disposal; brine is recycled back to process |
| 14 | Affected areas? | Concrete pad |
| 15 | Subsequent remediation of areas? | N/A |

Storage Pad by EDC Unit: listed on TCEQ NOR as Unit 031

Location: Chlor Alkali Plant

| | | |
|----|--------------------------------------|---|
| 1 | What is stored on this pad? | Storage pad has been removed and replaced with gravel and overhead pipe chases |
| 2 | When built? | Installed approximately 1994 to store thermal desorption unit used to treated EDC-contaminated soils. Formosa to provide date of demolition |
| 3 | Construction details? (berm, joints) | Former concrete pad now gravel |
| 4 | Last rehab/renovation (mo, yr) | Formosa to provide date of demolition |
| 5 | Wastes/materials stored on pad | EDC-contaminated soils |
| 6 | Discharges onto the pad? | Any soils that fell onto pad were re-introduced in the thermal desorption unit |
| 7 | If so, when? Where? | Formosa to provide closure report |
| 8 | Repairs to pad? | Formosa to provide date of demolition |
| 9 | What spill response occurred? | Formosa to provide closure report |
| 10 | Analytical samples collected? | Formosa to provide analytical |
| 11 | When/Where? | Formosa to provide closure report |
| 12 | Results? (attach copies) | Formosa to provide closure report |
| 13 | Wastes generated? | Formosa to provide closure report |
| 14 | Affected areas? | Formosa to provide closure report |
| 15 | Subsequent remediation of areas? | Formosa to provide closure report |

EDC Process Unit within ISBL System Container Storage Area: listed on TCEQ NOR as Unit 035

Location: Chlor Alkali Plant

| | | |
|----|----------------------------------|--|
| 1 | What is stored in this CSA? | Roll-off boxes for miscellaneous solid waste |
| 2 | When built? | Approximately 1991-1992 |
| 3 | Construction details? | Bermed, concrete pad sloped to contain spills |
| 4 | Last rehab/renovation (mo, yr) | N/A |
| 5 | Wastes/materials stored on CSA | Solid wastes, primarily from maintenance activities decontamination, and equipment renovations |
| 6 | Discharges from the CSA? | None reported |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to CSA? | None reported |
| 9 | What spill response occurred? | N/A |
| 10 | Analytical samples collected? | No |
| 11 | When/Where? | N/A |
| 12 | Results? (attach copies) | N/A |
| 13 | Wastes generated? | Solid wastes |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

HDPE II Process Area within the ISBL System Container Storage Area, also known as HDPE Sump: listed on TCEQ NOR as Unit 039

Location: HDPE II Plant

| | | |
|----|----------------------------------|--|
| 1 | What is stored in this CSA? | Wastewater runoff and sludges containing chrome and chromates from catalyst usage. |
| 2 | When built? | 2004 |
| 3 | Construction details? | Below grade concrete tank; bottom is approximately 10 feet below grade |
| 4 | Last rehab/renovation (mo, yr) | N/A |
| 5 | Wastes/materials stored on CSA | Trivalent chromium, hexavalent chromium |
| 6 | Discharges from the CSA? | Wastewater drains to CWTP; sludges are sampled, removed, and disposed as appropriate |
| 7 | If so, when? Where? | As needed |
| 8 | Repairs to CSA? | None |
| 9 | What spill response occurred? | None |
| 10 | Analytical samples collected? | Formosa to provide analytical results |
| 11 | When/Where? | Formosa to provide analytical results |
| 12 | Results? (attach copies) | Formosa to provide analytical results |
| 13 | Wastes generated? | Trivalent chromium, hexavalent chromium in wastewater and sludge |
| 14 | Affected areas? | None |
| 15 | Subsequent remediation of areas? | None |

**Raw Water Pond Receiving Blow-down from Demineralization Unit, Surface Impoundment:
listed on TCEQ NOR as Unit 043**

Location: Raw Water Pond

| | | |
|----|---|---|
| 1 | What is stored in this SI? | Raw water and solids from demineralization of raw water |
| 2 | When built? | Approximately 1991-1992 |
| 3 | Construction details? (clay, compaction, thickness, monitoring) | Compacted clay liner; berm installed to separate the raw water pond and the solids storage area |
| 4 | Last rehab/renovation/testing (mo, yr) | Formosa to provide date |
| 5 | Quantity and type of wastes/materials managed in SI | Raw water pond dredged to restore volume; solids placed in solids storage area |
| 6 | Type of treatment in SI | Settling and evaporation in solid pond |
| 7 | Discharges from the SI? | Liquids recycled back into raw water pond |
| 8 | If so, when? Where? | N/A |
| 8 | Repairs to SI? | Dredge spoils |
| 9 | What spill response occurred? | None |
| 10 | Analytical samples collected? | Formosa to provide analytical results (8260/8270/metals) |
| 11 | When/Where? | Formosa to provide analytical results |
| 12 | Results? (attach copies) | Formosa to provide analytical results |
| 13 | Wastes generated? | Solids from dredging |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | Formosa classifies the solids as Class II non-hazardous waste |

Chlor-Alkali - IEM Unit within the ISBL System Container Storage Area: listed on TCEQ NOR as Unit 045 and inactive since August 24, 2009

Location: Chlor Alkali Plant

| | | |
|----|----------------------------------|---|
| 1 | What is stored in this CSA? | Mercury-contaminated sulfuric acid; currently not used; one-time event to collect contaminated acid from process equipment and dispose as hazardous waste |
| 2 | When built? | 2007 |
| 3 | Construction details? | Roofed, open wall storage area on concrete pad; bermed area |
| 4 | Last rehab/renovation (mo, yr) | None reported |
| 5 | Wastes/materials stored on CSA | Mercury-contaminated sulfuric acid |
| 6 | Discharges from the CSA? | None reported |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to CSA? | None reported |
| 9 | What spill response occurred? | N/A |
| 10 | Analytical samples collected? | No |
| 11 | When/Where? | N/A |
| 12 | Results? (attach copies) | N/A |
| 13 | Wastes generated? | None reported |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

SPVC Technical, Less than 90-Day Drum Storage Area: listed on TCEQ NOR as Unit 050

Location: SPVC Technical Laboratory Support Area

| | | |
|----|----------------------------------|---|
| 1 | What is stored in this CSA? | 6 drums solid waste (gloves, tyvek); 1 drum solvents |
| 2 | When built? | 2011 |
| 3 | Construction details? | Sloped concrete pad with drive-over berm and covered roof |
| 4 | Last rehab/renovation (mo, yr) | N/A |
| 5 | Wastes/materials stored on CSA | Lab wastes |
| 6 | Discharges from the CSA? | No |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to CSA? | No |
| 9 | What spill response occurred? | N/A |
| 10 | Analytical samples collected? | No |
| 11 | When/Where? | N/A |
| 12 | Results? (attach copies) | N/A |
| 13 | Wastes generated? | No |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

Expansion Technical, Less than 90-day Drum Storage Area: listed on TCEQ NOR as Unit 042

Location: Technical Laboratory

| | | |
|----|----------------------------------|------------------------------------|
| 1 | What is stored in this CSA? | Lab packs from laboratory wastes |
| 2 | When built? | Approximately |
| 3 | Construction details? | Individual steel containment boxes |
| 4 | Last rehab/renovation (mo, yr) | None reported |
| 5 | Wastes/materials stored on CSA | Lab packs from laboratory wastes |
| 6 | Discharges from the CSA? | None reported |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to CSA? | None reported |
| 9 | What spill response occurred? | None reported |
| 10 | Analytical samples collected? | None reported |
| 11 | When/Where? | N/A |
| 12 | Results? (attach copies) | N/A |
| 13 | Wastes generated? | N/A |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

Olefins Plant Area: Zimpro OL-1 Wet Air Oxidation Units (wastewater treatment under the TPDES permit)

Location: Olefins I Plant

| | | |
|----|--|---|
| 1 | What is stored in this tank? | Benzene contaminated with caustic liquids; WWTU |
| 2 | When built? | Approximately 1991-1992 |
| 3 | Construction details? (welds, rivets) | Tankage and piping |
| 4 | Quantity and type of waste/material stored in tank | Approximately 25,000 gallons |
| 5 | Last rehab/renovation (mo, yr) | N/A |
| 6 | Discharges from the tank? | None |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to tank? | None |
| 9 | What spill response occurred? | N/A |
| 10 | Analytical samples collected? | Formosa to provide information |
| 11 | When/Where? | Formosa to provide information |
| 12 | Results? (attach copies) | Formosa to provide information |
| 13 | Wastes generated? | Volatiles sent to flare; caustic neutralized and sent to CWTP |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

Olefins Plant Area: Zimpro OL-2 Wet Air Oxidation Units (wastewater treatment under the TPDES permit)

Location: Olefins II Plant

| | | |
|----|--|---|
| 1 | What is stored in this tank? | Benzene contaminated with caustic liquids; WWTU |
| 2 | When built? | Approximately 1998-2002 |
| 3 | Construction details? (welds, rivets) | Tankage and piping |
| 4 | Quantity and type of waste/material stored in tank | Approximately 25,000 gallons |
| 5 | Last rehab/renovation (mo, yr) | N/A |
| 6 | Discharges from the tank? | None |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to tank? | None |
| 9 | What spill response occurred? | N/A |
| 10 | Analytical samples collected? | Formosa to provide information |
| 11 | When/Where? | Formosa to provide information |
| 12 | Results? (attach copies) | Formosa to provide information |
| 13 | Wastes generated? | Volatiles sent to flare; caustic neutralized and sent to CWTP |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

Laboratory Wastes - Satellite Accumulation Areas: SPVC

Location: **SPVC Laboratory**

| | | |
|----|---|---|
| 1 | What is stored in this SAA? | Small quantities of used chemicals, laboratory wastes; solids and liquids |
| 2 | When built? | 2011 |
| 3 | Construction details? | Laboratory benches under negative-ventilation hoods |
| 4 | Last rehab/renovation (mo, yr) | N/A |
| 5 | Quantity/type of wastes/materials stored in SAA | Waste solids and liquids from laboratory uses |
| 6 | Discharges from the SAA? | None reported |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to SAA? | None reported |
| 9 | What spill response occurred? | N/A |
| 10 | Analytical samples collected? | None reported |
| 11 | When/Where? | N/A |
| 12 | Results? (attach copies) | N/A |
| 13 | Wastes generated? | Lab packs |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

Laboratory Wastes - Satellite Accumulation Areas: Technical Lab - R&D

Location: Technical Laboratory

| | | |
|----|---|---|
| 1 | What is stored in this SAA? | Small quantities of used chemicals, laboratory wastes; solids and liquids |
| 2 | When built? | Approximately 1990-1991 |
| 3 | Construction details? | Laboratory benches under negative-ventilation hoods |
| 4 | Last rehab/renovation (mo, yr) | N/A |
| 5 | Quantity/type of wastes/materials stored in SAA | Waste solids and liquids from laboratory uses |
| 6 | Discharges from the SAA? | None reported |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to SAA? | None reported |
| 9 | What spill response occurred? | N/A |
| 10 | Analytical samples collected? | None reported |
| 11 | When/Where? | N/A |
| 12 | Results? (attach copies) | N/A |
| 13 | Wastes generated? | Lab packs |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

Spray Painting Wastes- Satellite Accumulation Areas

Location: Railcar Service Area

| | | |
|----|---|--|
| 1 | What is stored in this SAA? | According to Matt Brogger, this area was identified as a paint booth in the application for an Air Permit in May 2003 but was never built. |
| 2 | When built? | N/A |
| 3 | Construction details? | N/A |
| 4 | Last rehab/renovation (mo, yr) | N/A |
| 5 | Quantity/type of wastes/materials stored in SAA | N/A |
| 6 | Discharges from the SAA? | N/A |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to SAA? | N/A |
| 9 | What spill response occurred? | N/A |
| 10 | Analytical samples collected? | N/A |
| 11 | When/Where? | N/A |
| 12 | Results? (attach copies) | N/A |
| 13 | Wastes generated? | N/A |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

Sand Blast Wastes- Satellite Accumulation Areas

Location: Railcar Maintenance Building

| | | |
|----|---|---|
| 1 | What is stored in this SAA? | Sand from sandblasting operations. Did not inspect this SAA |
| 2 | When built? | N/A |
| 3 | Construction details? | N/A |
| 4 | Last rehab/renovation (mo, yr) | N/A |
| 5 | Quantity/type of wastes/materials stored in SAA | Use calcium carbonate or ceramic beads for abrasion |
| 6 | Discharges from the SAA? | N/A |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to SAA? | N/A |
| 9 | What spill response occurred? | N/A |
| 10 | Analytical samples collected? | N/A |
| 11 | When/Where? | N/A |
| 12 | Results? (attach copies) | N/A |
| 13 | Wastes generated? | N/A |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

Storm Water Outfalls 6, 7, 8, and 9

Location: East side of Facility above Cox Creek

Outfall 0006

| | | |
|----|---|--|
| 1 | What is purpose of AOC? | Stormwater drainage area; gated in case of release of contaminants |
| 2 | When built? | Permit update in 2005 |
| 3 | Construction details? | Concrete aprons and channel with metal gates |
| 4 | Last rehab/renovation (mo, yr) | Cleaned as required by inspection; weekly inspection |
| 5 | Unauthorized/unusual discharges to AOC? | EDC released in 1996; plastic pellets observed during 2010 EPA inspection; none observed this inspection |
| 6 | If so, when? Where? | EDC release in 1996 |
| 7 | Repairs to AOC? | None reported |
| 8 | What spill response occurred? | In 1996, Formosa provided response to release. See reports on spill response and remediation |
| 9 | Analytical samples collected? | During 1996; see report |
| 10 | When/Where? | At outfall, in Cox Creek sediments and water |
| 11 | Results? (attach copies) | See 1996 report |
| 12 | Wastes generated? | Yes |
| 13 | Affected areas? | Drainage channel; Cox Creek |
| 14 | Subsequent remediation of areas? | Drainage channel |

Storm Water Outfalls 6, 7, 8, and 9

Location: East side of Facility above Cox Creek

Outfall 0007

| | | |
|----|---|--|
| 1 | What is purpose of AOC? | Stormwater drainage area; gated in case of release of contaminants |
| 2 | When built? | Permit update in 2005 |
| 3 | Construction details? | Concrete aprons and channel with metal gates |
| 4 | Last rehab/renovation (mo, yr) | Cleaned as required by inspection; weekly inspection |
| 5 | Unauthorized/unusual discharges to AOC? | Plastic pellets observed during 2010 EPA inspection; none observed this inspection |
| 6 | If so, when? Where? | Above and below gates |
| 7 | Repairs to AOC? | None reported |
| 8 | What spill response occurred? | N/A |
| 9 | Analytical samples collected? | None reported |
| 10 | When/Where? | N/A |
| 11 | Results? (attach copies) | None reported |
| 12 | Wastes generated? | N/A |
| 13 | Affected areas? | N/A |
| 14 | Subsequent remediation of areas? | N/A |

Storm Water Outfalls 6, 7, 8, and 9

Location: East side of Facility above Cox Creek

Outfall 0008

| | | |
|----|---|--|
| 1 | What is purpose of AOC? | Stormwater drainage area; gated in case of release of contaminants |
| 2 | When built? | Permit update in 2005 |
| 3 | Construction details? | Concrete aprons and channel with metal gates |
| 4 | Last rehab/renovation (mo, yr) | Cleaned as required by inspection; weekly inspection |
| 5 | Unauthorized/unusual discharges to AOC? | Plastic pellets observed during 2010 EPA inspection; none observed this inspection |
| 6 | If so, when? Where? | Above and below gates |
| 7 | Repairs to AOC? | None reported |
| 8 | What spill response occurred? | N/A |
| 9 | Analytical samples collected? | None reported |
| 10 | When/Where? | N/A |
| 11 | Results? (attach copies) | None reported |
| 12 | Wastes generated? | N/A |
| 13 | Affected areas? | N/A |
| 14 | Subsequent remediation of areas? | N/A |

Storm Water Outfalls 6, 7, 8, and 9

Location: East side of Facility above Cox Creek

Outfall 0009

| | | |
|----|---|--|
| 1 | What is purpose of AOC? | Stormwater drainage area; gated in case of release of contaminants |
| 2 | When built? | Permit update in 2005 |
| 3 | Construction details? | Concrete aprons and channel with metal gates |
| 4 | Last rehab/renovation (mo, yr) | Cleaned as required by inspection; weekly inspection |
| 5 | Unauthorized/unusual discharges to AOC? | Plastic pellets observed during 2010 EPA inspection; none observed this inspection |
| 6 | If so, when? Where? | Above and below gates |
| 7 | Repairs to AOC? | Riprap, concrete, and screening to control erosion |
| 8 | What spill response occurred? | N/A |
| 9 | Analytical samples collected? | None reported |
| 10 | When/Where? | N/A |
| 11 | Results? (attach copies) | None reported |
| 12 | Wastes generated? | N/A |
| 13 | Affected areas? | N/A |
| 14 | Subsequent remediation of areas? | N/A |

Soil Debris Piles Northeast of New SPVC Facility

Location: **Northeast of SPVC Facility**

| | | |
|----|--|---|
| 1 | What is stored in this tank? | Soil, concrete, debris |
| 2 | When built? | Approximately 2010 |
| 3 | Construction details? (welds, rivets) | Soil piled on top of ground surface; Formosa has begun separating out concrete for crushing |
| 4 | Quantity and type of waste/material stored in tank | Soil, concrete, debris - approximately 4 acres |
| 5 | Last rehab/renovation (mo, yr) | N/A |
| 6 | Discharges from the soil pile | None reported |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to soil pile | None reported |
| 9 | What spill response occurred? | N/A |
| 10 | Analytical samples collected? | Formosa to provide |
| 11 | When/Where? | Formosa to provide |
| 12 | Results? (attach copies) | Formosa to provide |
| 13 | Wastes generated? | Soil, concrete, debris |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

LLDPE Plant: Tank DO 615 - Water Separation Unit from Die Cut Process

Location: LLDPE Plant

| | | |
|----|--|--|
| 1 | What is stored in this tank? | Hexane and water |
| 2 | When built? | Approximately 1991-1992 |
| 3 | Construction details? (welds, rivets) | Elevated cylindrical tank located in a curbed area above the floor inside a building |
| 4 | Quantity and type of waste/material stored in tank | Hexane and water |
| 5 | Last rehab/renovation (mo, yr) | N/A |
| 6 | Discharges from the tank? | None reported |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to tank? | None reported |
| 9 | What spill response occurred? | N/A |
| 10 | Analytical samples collected? | None reported |
| 11 | When/Where? | N/A |
| 12 | Results? (attach copies) | N/A |
| 13 | Wastes generated? | Wastewater is sent to CWTP; hexane is stripped and sold as product |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

LLDPE Plant: Heavy Ends Tank Receiving Waste from the Solvent Recovery Unit

Location: LLDPE Plant

| | | |
|----|--|--|
| 1 | What is stored in this tank? | Recovered hexane (prior to sale as a product) |
| 2 | When built? | Approximately 1991-1992 |
| 3 | Construction details? (welds, rivets) | Elevated cylindrical tank located in a curbed area above the floor inside a building |
| 4 | Quantity and type of waste/material stored in tank | Used hexane, exempted as re-usable product |
| 5 | Last rehab/renovation (mo, yr) | N/A |
| 6 | Discharges from the tank? | None reported |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to tank? | None reported |
| 9 | What spill response occurred? | N/A |
| 10 | Analytical samples collected? | None reported |
| 11 | When/Where? | N/A |
| 12 | Results? (attach copies) | N/A |
| 13 | Wastes generated? | None reported |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

HDPE Plant I: Waste Hexane Drum and Waste Hexane Stripper

Location: HDPE I Plant

| | | |
|----|--|--|
| 1 | What is stored in this tank? | Hexane and water |
| 2 | When built? | Approximately 1991-1992 |
| 3 | Construction details? (welds, rivets) | Tank with steam stripper |
| 4 | Quantity and type of waste/material stored in tank | Hexane and water |
| 5 | Last rehab/renovation (mo, yr) | N/A |
| 6 | Discharges from the tank? | None reported |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to tank? | None reported |
| 9 | What spill response occurred? | N/A |
| 10 | Analytical samples collected? | None reported |
| 11 | When/Where? | N/A |
| 12 | Results? (attach copies) | N/A |
| 13 | Wastes generated? | Hexane recovered and returned to process; water sent to CWTP |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

HDPE Plant II: Tank T801 - Centrifugal Dryer Filtrate Unit

Location: HDPE I Plant

| | | |
|----|--|--|
| 1 | What is stored in this tank? | Hexane and water |
| 2 | When built? | Approximately 1991-1992 |
| 3 | Construction details? (welds, rivets) | Filtering unit with centrifugal dryer |
| 4 | Quantity and type of waste/material stored in tank | Hexane and water |
| 5 | Last rehab/renovation (mo, yr) | N/A |
| 6 | Discharges from the tank? | None reported |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to tank? | None reported |
| 9 | What spill response occurred? | N/A |
| 10 | Analytical samples collected? | None reported |
| 11 | When/Where? | N/A |
| 12 | Results? (attach copies) | N/A |
| 13 | Wastes generated? | Hexane recovered and returned to process; water sent to CWTP |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

**Central Maintenance Shop and Maintenance Waste: Wash Down Pad, Oil Water Separator,
and Used Oil Storage Vessel**

Location: **Central Maintenance Plant**

Wash Down Pad

| | | |
|----|--------------------------------------|---|
| 1 | What is stored on this pad? | Used oil |
| 2 | When built? | Approximately 1991-1992 |
| 3 | Construction details? (berm, joints) | curbed, concrete pad |
| 4 | Last rehab/renovation (mo, yr) | N/A |
| 5 | Wastes/materials stored on pad | Used oil |
| 6 | Discharges onto the pad? | At the time of the inspection, a discolored area (appeared to be used oil) was observed outside the bermed area of the wash down pad. Area was approximately 6 inches wide by 3 feet long |
| 7 | If so, when? Where? | Area outside berm along southwest corner of pad |
| 8 | Repairs to pad? | None reported |
| 9 | What spill response occurred? | None reported |
| 10 | Analytical samples collected? | None reported |
| 11 | When/Where? | N/A |
| 12 | Results? (attach copies) | N/A |
| 13 | Wastes generated? | Used oil |
| 14 | Affected areas? | Area outside berm along southwest corner of pad |
| 15 | Subsequent remediation of areas? | N/A |

Central Maintenance Shop and Maintenance Waste: Wash Down Pad, Oil Water Separator,
and Used Oil Storage Vessel

Location: Central Maintenance Plant

Oil Water Separator

| | | |
|----|---------------------------------------|--|
| 1 | What is stored in this tank? | Used oil |
| 2 | When built? | Approximately 1991-1992 |
| 3 | Construction details? (welds, rivets) | Below grade, concrete tank with weirs |
| 4 | Last rehab/renovation (mo, yr) | N/A |
| 5 | Wastes/materials stored on pad | Used oil and water |
| 6 | Discharges onto the pad? | None reported. Oil is vacuumed and stored in Used Oil Tank. Water is vacuumed and disposed at CWTP |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to pad? | None reported |
| 9 | What spill response occurred? | None reported |
| 10 | Analytical samples collected? | None reported |
| 11 | When/Where? | N/A |
| 12 | Results? (attach copies) | N/A |
| 13 | Wastes generated? | Waste oil sent to Used Oil Tank; wastewater sent to CWTP |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

Central Maintenance Shop and Maintenance Waste: Wash Down Pad, Oil Water Separator,
and Used Oil Storage Vessel

Location: Central Maintenance Plant

Used Oil Storage

| | | |
|----|---------------------------------------|---|
| 1 | What is stored in this tank? | Used oil |
| 2 | When built? | Approximately 1991-1992 |
| 3 | Construction details? (welds, rivets) | 25,000 gallon steel tank under roof with three open walls |
| 4 | Last rehab/renovation (mo, yr) | N/A |
| 5 | Wastes/materials stored on pad | Yes; Formosa to provide SPCC plan |
| 6 | Discharges onto the pad? | None reported |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to pad? | None reported |
| 9 | What spill response occurred? | N/A |
| 10 | Analytical samples collected? | None reported |
| 11 | When/Where? | N/A |
| 12 | Results? (attach copies) | N/A |
| 13 | Wastes generated? | None reported |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

Waste Management Units listed on TCEQ NOR and located in the Combined Wastewater Treatment Plant: listed on TCEQ NOR as Units 27, 36, 37, 40, and 49

Location: Centralized Wastewater Treatment Plant

Unit 27 Hazardous Biofilter Press

| | | |
|----|--|---|
| 1 | What is stored in this tank? | Hazardous solids from belt filter press |
| 2 | When built? | Approximately 1991-1992; unit inactive since 1997 |
| 3 | Construction details? (welds, rivets) | N/A |
| 4 | Quantity and type of waste/material stored in tank | N/A |
| 5 | Last rehab/renovation (mo, yr) | N/A |
| 6 | Discharges from the tank? | N/A |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to tank? | N/A |
| 9 | What spill response occurred? | N/A |
| 10 | Analytical samples collected? | N/A |
| 11 | When/Where? | N/A |
| 12 | Results? (attach copies) | N/A |
| 13 | Wastes generated? | N/A |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

Waste Management Units listed on TCEQ NOR and located in the Combined Wastewater Treatment Plant: listed on TCEQ NOR as Units 27, 36, 37, 40, and 49

Centralized Wastewater Treatment Plant

Unit 36 Non-hazardous Biofilter Press

| | | |
|----|--|--|
| 1 | What is stored in this tank? | Solids from CWTP |
| 2 | When built? | Approximately 1991-1992 |
| 3 | Construction details? (welds, rivets) | Belt filter press discharging solids into roll-off boxes |
| 4 | Quantity and type of waste/material stored in tank | Approximately 1-2 roll-off boxes per day |
| 5 | Last rehab/renovation (mo, yr) | N/A |
| 6 | Discharges from the tank? | Water returned to headworks; solids stored in roll-off boxes |
| 7 | If so, when? Where? | Roll-offs sent as Class 2 nonhazardous waste to Clean Harbors, Altair Landfill |
| 8 | Repairs to tank? | N/A |
| 9 | What spill response occurred? | N/A |
| 10 | Analytical samples collected? | Formosa to provide |
| 11 | When/Where? | Formosa to provide |
| 12 | Results? (attach copies) | Formosa to provide |
| 13 | Wastes generated? | Solids from CWTP |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

Waste Management Units listed on TCEQ NOR and located in the Combined Wastewater Treatment Plant: listed on TCEQ NOR as Units 27, 36, 37, 40, and 49

Centralized Wastewater Treatment Plant

Unit 37 Exempt CWTP Unit

| | | |
|----|---|-------------------------|
| 1 | What is stored in this tank? | Wastewater |
| 2 | When built? | Approximately 1991-1992 |
| 3 | Construction details? (welds, rivets) | Steel tanks, welds |
| 4 | Quantity and type of waste/material stored in box | Wastewater |
| 5 | Last rehab/renovation (mo, yr) | N/A |
| 6 | Discharges from the tank? | N/A |
| 7 | If so, when? Where? | N/A |
| 8 | Repairs to tank? | N/A |
| 9 | What spill response occurred? | N/A |
| 10 | Analytical samples collected? | Formosa to provide |
| 11 | When/Where? | Formosa to provide |
| 12 | Results? (attach copies) | Formosa to provide |
| 13 | Wastes generated? | N/A |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

Waste Management Units listed on TCEQ NOR and located in the Combined Wastewater Treatment Plant: listed on TCEQ NOR as Units 27, 36, 37, 40, and 49

Centralized Wastewater Treatment Plant

Central Wastewater Treatment

Unit 40 Plant

| | | |
|----|--|--|
| 1 | What is stored in this tank? | Ethylene dichloride wastewaters and sludges (listed hazardous waste) |
| 2 | When built? | Approximately 1991-1992 |
| 3 | Construction details? (welds, rivets) | Below grade concrete tank used as a mixing basin |
| 4 | Quantity and type of waste/material stored in tank | 1 drum hazardous sludge per week |
| 5 | Last rehab/renovation (mo, yr) | N/A |
| 6 | Discharges from the tank? | Wastewater discharged to Lavaca Bay through Outfall 001; sludges removed and placed into 55-gallon drums |
| 7 | If so, when? Where? | Sludges removed as needed |
| 8 | Repairs to tank? | None reported |
| 9 | What spill response occurred? | None reported |
| 10 | Analytical samples collected? | Formosa to provide |
| 11 | When/Where? | Formosa to provide |
| 12 | Results? (attach copies) | Formosa to provide |
| 13 | Wastes generated? | Hazardous sludges placed into 55-gallon drums |
| 14 | Affected areas? | N/A |
| 15 | Subsequent remediation of areas? | N/A |

Waste Management Units listed on TCEQ NOR and located in the Combined Wastewater Treatment Plant: listed on TCEQ NOR as Units 27, 36, 37, 40, and 49

Centralized Wastewater Treatment Plant

Unit 49 Roll-off Box Storage Pad

| | | |
|----|--|---|
| 1 | What is stored in this tank? | Solids from CWTP |
| 2 | When built? | Approximately 1991-1992 |
| 3 | Construction details? (welds, rivets) | Steel boxes |
| 4 | Quantity and type of waste/material stored in tank | Approximately 20 cubic yards per box |
| 5 | Last rehab/renovation (mo, yr) | N/A |
| 6 | Discharges from the tank? | Liquids |
| 7 | If so, when? Where? | Drain from roll-off boxes onto concrete pad; flows to drainage that is collected and sent to CWTP |
| 8 | Repairs to tank? | N/A |
| 9 | What spill response occurred? | N/A |
| 10 | Analytical samples collected? | Formosa to provide |
| 11 | When/Where? | Formosa to provide |
| 12 | Results? (attach copies) | Formosa to provide |
| 13 | Wastes generated? | Liquids from roll-off boxes |
| 14 | Affected areas? | Concrete pad |
| 15 | Subsequent remediation of areas? | N/A |

Attachment B

FORMOSA PLASTICS CORPORATION, TEXAS
Point Comfort, Texas

Photographs from August 20-23, 2012 Inspection

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log
Photo No. 1



| | | |
|--|---------------------------|------------------|
| Photographer: Matt Brogger | Date: 8/21/12 | Time: 1100 hours |
| City/County: Point Comfort, Calhoun | Direction (facing): North | State: TX |
| Location: Formosa Plastics Corp. | | |
| Subject: Concrete washout pit at Soil Pile (AOC 2) | | |
| Photo ID: IMG-1001 (Canon SureShot A510, #S28099) | | |

(NOTE: Photograph witnessed by Frances Verhalen, EPA.)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log
Photo No. 2



| | | |
|---|--------------------------|------------------|
| Photographer: Matt Brogger | Date: 8/21/12 | Time: 1112 hours |
| City/County: Point Comfort, Calhoun | Direction (facing): West | State: TX |
| Location: Formosa Plastics Corp. | | |
| Subject: SPVC Container Storage Area (SWMU 11) | | |
| Photo ID: IMG-1002 (Canon SureShot A510, #S28099) | | |

(NOTE: Photograph witnessed by Frances Verhalen, EPA.)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo No. 3



| | | |
|---|--------------------------|------------------|
| Photographer: Matt Brogger | Date: 8/21/12 | Time: 1125 hours |
| City/County: Point Comfort, Calhoun | Direction (facing): West | State: TX |
| Location: Formosa Plastics Corp. | | |
| Subject: Used oil storage tank and secondary containment area (AOC 6) | | |
| Photo ID: IMG-1003 (Canon SureShot A510, #S28099) | | |

(NOTE: Photograph witnessed by Frances Verhalen, EPA.)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log
Photo No. 4



| | | |
|---|-------------------------------|------------------|
| Photographer: Matt Brogger | Date: 8/21/12 | Time: 1130 hours |
| City/County: Point Comfort, Calhoun | Direction (facing): Southwest | State: TX |
| Location: Formosa Plastics Corp. | | |
| Subject: Oil/water separator and pit (AOC 6) | | |
| Photo ID: IMG-1004 (Canon SureShot A510, #S28099) | | |

(NOTE: Photograph witnessed by Frances Verhalen, EPA.)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log
Photo No. 5



| | | |
|---|-------------------------------|------------------|
| Photographer: Matt Brogger | Date: 8/21/12 | Time: 1308 hours |
| City/County: Point Comfort, Calhoun | Direction (facing): Southwest | State: TX |
| Location: Formosa Plastics Corp. | | |
| Subject: Less than 90-day CSA at Technical Laboratories | | |
| Photo ID: IMG-1005 (Canon SureShot A510, #S28099) | | |

(NOTE: Photograph witnessed by Frances Verhalen, EPA.)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log
Photo No. 6



| | | |
|--|-------------------------------|------------------|
| Photographer: Matt Brogger | Date: 8/21/12 | Time: 1430 hours |
| City/County: Point Comfort, Calhoun | Direction (facing): Southwest | State: TX |
| Location: Formosa Plastics Corp. | | |
| Subject: Tanks DT407A and 407B in Chlor Alkali Plant (SWMUs 2 and 3, respectively) | | |
| Photo ID: IMG-1006 (Canon SureShot A510, #S28099) | | |

(NOTE: Photograph witnessed by Frances Verhalen, EPA.)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log
Photo No. 7



| | | |
|---|--------------------------|------------------|
| Photographer: Matt Brogger | Date: 8/21/12 | Time: 1435 hours |
| City/County: Point Comfort, Calhoun | Direction (facing): West | State: TX |
| Location: Formosa Plastics Corp. | | |
| Subject: CSA in Chlor Alkali Plant (SWMU 6) | | |
| Photo ID: IMG-1007 (Canon SureShot A510, #S28099) | | |

(NOTE: Photograph witnessed by Frances Verhalen, EPA.)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log
Photo No. 8



| | | |
|---|-------------------------------|------------------|
| Photographer: Matt Brogger | Date: 8/21/12 | Time: 1448 hours |
| City/County: Point Comfort, Calhoun | Direction (facing): Northeast | State: TX |
| Location: Formosa Plastics Corp. | | |
| Subject: CSA in Chlor Alkali Plant near EDC production line (SWMU 10) | | |
| Photo ID: IMG-1008 (Canon SureShot A510, #S28099) | | |

(NOTE: Photograph witnessed by Frances Verhalen, EPA.)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log
Photo No. 9



| | | |
|---|--------------------------------------|------------------|
| Photographer: Matt Brogger | Date: 8/21/12 | Time: 1528 hours |
| City/County: Point Comfort, Calhoun | Direction (facing): Northwest (down) | State: TX |
| Location: Formosa Plastics Corp. | | |
| Subject: Stormwater Outfall 006 (AOC 1a) | | |
| Photo ID: IMG-1009 (Canon SureShot A510, #S28099) | | |

(NOTE: Photograph witnessed by Frances Verhalen, EPA.)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log
Photo No. 10



| | | |
|---|--------------------------------------|------------------|
| Photographer: Matt Brogger | Date: 8/21/12 | Time: 1536 hours |
| City/County: Point Comfort, Calhoun | Direction (facing): Northeast (down) | State: TX |
| Location: Formosa Plastics Corp. | | |
| Subject: Stormwater Outfall 007 (AOC 1b) | | |
| Photo ID: IMG-1010 (Canon SureShot A510, #S28099) | | |

(NOTE: Photograph witnessed by Frances Verhalen, EPA.)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log
Photo No. 11



| | | |
|---|-------------------------------|------------------|
| Photographer: Matt Brogger | Date: 8/22/12 | Time: 0951 hours |
| City/County: Point Comfort, Calhoun | Direction (facing): Northwest | State: TX |
| Location: Formosa Plastics Corp. | | |
| Subject: Brine chiller in Central Wastewater Treatment Plant (CWTP) | | |
| Photo ID: IMG-1001 (Canon SureShot A510, #S28099) | | |

(NOTE: Photograph witnessed by Frances Verhalen, EPA.)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log
Photo No. 12



| | | |
|---|---------------------------|------------------|
| Photographer: Matt Brogger | Date: 8/22/12 | Time: 1015 hours |
| City/County: Point Comfort, Calhoun | Direction (facing): North | State: TX |
| Location: Formosa Plastics Corp. | | |
| Subject: Copper compression unit at CWTP | | |
| Photo ID: IMG-1002 (Canon SureShot A510, #S28099) | | |

(NOTE: Photograph witnessed by Frances Verhalen, EPA.)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log
Photo No. 13



| | | |
|---|---------------------------|------------------|
| Photographer: Matt Brogger | Date: 8/22/12 | Time: 1020 hours |
| City/County: Point Comfort, Calhoun | Direction (facing): North | State: TX |
| Location: Formosa Plastics Corp. | | |
| Subject: Roll-off box storage of solids from belt press in CWTP | | |
| Photo ID: IMG-1003 (Canon SureShot A510, #S28099) | | |

(NOTE: Photograph witnessed by Frances Verhalen, EPA.)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Official Photograph Log

Photo No. 14



| | | |
|---|---------------------------|------------------|
| Photographer: Matt Brogger | Date: 8/22/12 | Time: 1045 hours |
| City/County: Point Comfort, Calhoun | Direction (facing): South | State: TX |
| Location: Formosa Plastics Corp. | | |
| Subject: Hazardous waste SAA at CWTP | | |
| Photo ID: IMG-1004 (Canon SureShot A510, #S28099) | | |

(NOTE: Photograph witnessed by Frances Verhalen, EPA.)

END OF PHOTOGRAPHS
